

MOOSE

SURVEY-INVENTORY PROGRESS REPORT - 1972

Game Management Unit 15B - Soldotna

Seasons and Bag Limits:

Unit 15B East, that portion east of the Funny River and a line from the headwaters of the west fork of the Funny River to the mouth of the Shantatalik Creek.	Aug. 20- Sept. 30 Nov. 1-Nov. 20	One moose; 150 antlerless moose may be taken by permit only; dates and conditions of hunt will be described by Commissioner's announcement.
Unit 15B West, the remainder of Unit 15B	Aug. 20- Sept. 30 Nov. 1-Nov. 20	One moose; 50 antlerless moose may be taken by permit only; dates and conditions of the hunt will be described by Commissioner's announcement.

Harvest and Hunting Pressure:

Harvest reports for the 1972 season indicate that hunters took 73 bulls, 3 cows and 1 moose sex unknown (Appendix I). The 1972 bull harvest was down 43 percent from the 1971 harvest which was one of the largest on record.

A permit registration antlerless season was held September 1 to September 30. Four hundred three permits were issued and 11 antlerless moose were reported taken.

Subunit 15B West was not opened to antlerless moose hunting although a permit hunt is provided for in the regulations. Antlerless moose hunts will be held in this subunit only when timing of the migration causes a population buildup before mid-winter.

Composition and Productivity:

Sex and age composition counts conducted December 1-2, 1972 showed 30.9 bulls per 100 cows and 26.8 calves per 100 cows (Appendices II & III). Small bulls per 100 cows, small bulls per 100 large bulls and small bull percent of herd all dropped sharply from 1970 (Appendix III).

Deep snow that came early and persisted late in the winter of 1971-72 and unusually low temperatures combined to produce one of the most severe winters for moose in recent years. These severe conditions resulted in the loss of a high percentage of calves during the winter. Although no measure of the loss was possible in Subunit 15B, mortality is thought to have been at least as high as in 15A where the rate of mortality was about 80%.

An effort to conduct spring survival counts in 1973 resulted in the classification of 92 moose (Appendices IV & V). Based on these data calf survival over winter was 95.9 percent.

Analysis of femurs from 10 winter-killed moose calves in Subunit 15B showed marrow fat contents ranging from 6.2 to 11.0 percent. These low values are symp-

omatic of severe malnutrition. In all cases calves had food in the rumen.

Management Summary and Conclusions:

The high loss of calves during the winter of 1971-72 is reflected in lowered ratios of bull per 100 cows, small (yearling) bulls per 100 large bulls and in the small bull percent of herd (Appendix III). The resulting low recruitment of yearling bulls may account for part of the decline in the bull harvest; however the number of hunters reported hunting in this unit also declined, and early season hunting in the benchland area appears to have been poor due to an unusual distribution of moose within the unit. The bull:cow ratio declined between 1970 and 1972 by 18.3 percent and appears to be on a downward trend.

Calf production, on a downward trend since 1962, improved considerably in 1972 (Appendix III). The 26.8 calves per 100 cows observed was the highest level of production observed since 1962 when there were 36.9 calves/100 cows.

Limited spring survival counts indicate that survival of calves through the winter of 1972-73 was excellent at 95.9 percent. Although the sample size is small it bears out a general observation of high survival.

Recommendations:

Since Subunit 15B East has been designated as a trophy management area, steps should be taken to improve the bull:cow ratio. Although it does not appear feasible to harvest this herd at the sustained yield level it may be possible to improve or at least maintain the bull:cow ratio through restriction on bull hunting and liberalization of antlerless moose hunting.

The season in Subunit 15B West should be made to conform with Subunit 15A.

Submitted by: Paul A. LeRoux, Game Biologist III

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APPENDIX I

Moose Harvest and Hunting Pressure - Subunit 15B - Soldotna

Year	Season	Bulls	Cows	Unid.	Total	Hunters	Percent Success
1965	1st	*	0	0	*		
	2nd	*	193	0	*		
	Combined	183	193	0	376	*	*
1966	1st	60	26	0	86		
	2nd	56	0	0	56		
	Combined	119 ²	26	0	145 ²	*	*
1967	1st	51	0	0	51		
	2nd	18	0	0	18		
	Combined	69	0	0	69	233	30
1968	1st	67	5	0	72		
	2nd	35	0	0	35		
	Combined	108 ²	6	2	116 ²	282	41
1969 ³	1st	29	0	0	29		
	2nd	33	0	0	33		
	Antlerless	28 ¹	55 ¹	0	83 ¹		
	Combined	119 ²	55 ¹	0	174 ²	*	*
1970 ⁴	1st	14	0	1	15		
	2nd	23	0	0	23		
	Antlerless	4	75	1	80		
	Combined	69 ²	75	2	146 ²	283	52
1971 ⁵	1st	36	54 ¹	2	93		
	2nd	62	32 ¹	2	96		
	Combined	128 ²	86 ¹	0	214 ²	488	44
1972 ⁶	1st	45	11 ¹	1	47		
	2nd	19	0	0	19		
	Combined	73 ²	11 ¹	1	85 ²	336	25.2

* Data not available

¹ Known harvest from source other than harvest tickets. (Antlerless permit returns.)

² Seasons totals exceeds sum of season because of inclusion of animals for which data of kill is unknown.

³ Antlerless season held February 19-22, 1970.

⁴ Antlerless season held December 16-20, 1970.

⁵ Antlerless season held September 1-30 and November 1-30.

⁶ Antlerless season held September 1-30.

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APPENDIX II

Moose Sex and Age Composition - Subunit 15B

Year	Large MM	Small MM	Total MM	FF W/O	FF W/1	FF W/2	Total FF	Total Adults	Lone Calves	Total Calves	Unid. Sex & Age	Total Sample	Count Time (Hrs.)	Moose per Hour
12/3- 21/62	377	61	438	673	317	28	1018	1456	2	375	1	1832	-	-
1963	NO COUNTS MADE													
12/64	337	46	383	690	166	10	866	1249	1	187	0	1437	22	65
1965	NO COUNTS MADE													
1966	NO COUNTS MADE													
1967	NOT AVAILABLE													
1968	NO COUNTS MADE													
1969	NO COUNTS MADE													
12/2- 4/70& 12/12/70	184	17	201	455	75	2	531	732	0	77	5	817	10.4	78.6
1971	NO COUNTS MADE													
12/1-2/72	200	14	214	515	174	4	693	907	4	186	0	1093	17.79	61.4

Nov 1973

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APPENDIX III

Moose Sex and Age Ratios - Subunit 15B

Year	Total MM per 100 FF	Small MM per 100 FF	Sm. MM per 100 Lg. MM	Sm. MM % in Herd	Sm. MM per 100 MM Calves	Calves per 100 FF	Twins per 100 FF w/calf	Calf % in Herd	Animals per Hour	Total Sample
1962	43.0	6.0	16.2	3.3	32.5	36.9	8.1	20.4	-	1832
1963	NO COUNTS MADE									
1964	44.2	5.3	13.7	3.2	52.0	21.6	5.7	13.0	65	1437
1965	NO COUNTS MADE									
1966	NO COUNTS MADE									
1967	28.8	3.5	13.8	2.4	44.0	15.8	2.0	10.9	-	457
1968	NO COUNTS MADE									
1969	NO COUNTS MADE									
1970	37.8	3.2	9.2	2.1	47.2	14.5	2.6	9.4	78.6	817
1971	NO COUNTS MADE									
1972	30.9	2.0	7.0	1.3	15.1	26.8	2.3	17.0	61.4	1093

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Appendix IV

Moose Productivity (spring-fall survival) Composition

<u>Date</u>	<u>Cows w/1 Ylgs.</u>	<u>Cows w/2 Ylgs.</u>	<u>Total Cows</u>	<u>Unid. Adults</u>	<u>Total Adults</u>	<u>Lone Ylgs.</u>	<u>Total Ylgs.</u>	<u>Unid. Sex & Age</u>	<u>Total Sample</u>
5/11/73	10	0	10	67	77	5	15	0	92

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Appendix V

Moose (spring-fall survival) ratios and percents

Date	Calves/ 100 cows in fall	Yrlg. % of herd	Calf % of fall herd	% Calf winter mortality	Total Sample
5/11/73	26.8	16.3	17.0	4.1	92

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